



## DEPARTMENT OF THE ARMY

DETROIT DISTRICT, CORPS OF ENGINEERS  
BOX 1027  
DETROIT, MICHIGAN 48231

REPLY TO  
ATTENTION OF

October 26, 1984

US EPA RECORDS CENTER REGION 5



NCECO-D

SUBJECT: Civil Action 80-73699 - Consent Decree, BASF Wyandotte Corp.,  
Riverview, Michigan, Site Modification Program

Mr. Jonas Dikinis  
c/o Waste Management Division  
Region V, EPA  
230 S. Dearborn Street  
Chicago, Illinois 60604

Dear Sir:

Your office was advised on October 5, 1984, that unacceptable soil material was coming up through the northern compacted clay cover in several areas.

Further on-site investigation revealed that the compacted clay cover in the affected areas were not in compliance with Consent Decree thickness requirements and that original sub-grade soils and initial cover soils had worked up through the cover in six areas.

A Stop Work Order was issued on October 9, 1984 and was in effect until a remedial program could be developed, to investigate the clay cover and noncompliance or compliance with the Consent Decree. On October 11, 1984, the Order was removed to allow implementation of the remedial program proposed by BASF Wyandotte Corp.

A chronological record of events related to the Stop Work Order is attached.

The remedial program is complete and appears to be successful. The problem areas were found to be localized and may have been caused by heavy equipment movement on the cover, over an area where subgrade soils were wet and soft.

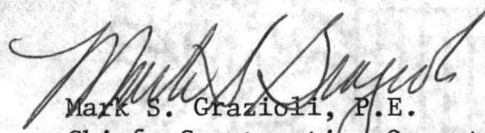
All the BASF Wyandotte Corp. (BWC) surveys performed before, during and after placement of the compacted clay cover indicated that the 24 inch thickness required by the Consent Decree was achieved.

While BWC surveys show the clay cover thickness complies with the Consent Decree, other similar problem areas may be present. Extensive manual probing of the northern clay cover would be required to adequately determine if other similar problem areas do exist.

As an alternative, special attention should be given to the northern clay cover area during the BWC site inspections required by Section V.C. - "Inspection and Maintenance Program", of the Consent Decree, to assure that additional areas have not developed where unacceptable soil material is coming up through the clay cover.

Contact Mr. Carl Woodruff at 1-313-226-3074 or 8-226-3074 (FTS) if you have any questions.

Sincerely,



Mark S. Grazioli, P.E.

Chief, Construction Operations Division

Attachment

Copy Furnished: Mr. Bill Axce (BWC)  
Mr. L. Lipinski (MDNR)

Record of Events Pertaining to  
Non-Compliance of the North Clay Cap Cover  
at the BASF Wyandotte Corp., Riverview Site,  
Riverview, Michigan

1. Friday - 5 October 1984

a) Mr. Roy Jameson CoE on-site inspector reported the following to Mr. Carl Woodruff CoE Representative:

- 1) Soft grey black material was discovered coming up through the brown compacted clay cover material.
- 2) Seven problem areas were identified and approximate locations recorded in daily Inspection Report No. 51 (sketch attached).
- 3) Mr. Jameson manually probed the problem areas and determined that the clay cover thickness in those areas appeared to be less than 24 inches.
- 4) BWC had requested their Contractor, B&V, not to work in the problem areas. However, Contractor did continue to work in the general area.

b) Mr. Woodruff contacted Mr. Greg Vanderlaan, Region V, EPA, (alternate to Mr. Jonas Dikinis, EPA Coordinator) and briefed him on the above developments.

2. Saturday - 6 October 1984

Mr. Dick Albert and Mr. Carl Woodruff, CoE, visited the site to observe the problem areas.

3. Tuesday - 9 October 1984

a) Mr. Woodruff visited the site and took photographs of the problem area.. He recommended to BWC's on site representative, Mr. Bill Hogan, that the Contractor not be allowed to work in the problem area until a course of action could be determined. Contractor had been spreading topsoil in the north portion of the site but due to wet weather had stopped short of the problem area. As soon as conditions were dry enough the Contractor appeared ready to continue topsoil operations.

b) Mr. Jonas Dikinis, EPA Coordinator, was briefed by Mr. Woodruff on the problem situation. The information available indicated that the compacted clay cover in the north area was not in compliance with the Consent Decree. Mr. Woodruff suggested that a Stop Work Order be issued for the non-compliance area until a corrective plan of action could be worked out. Mr. Dikinis concurred.



c) Mr. Woodruff verbally advised Mr. Bill Axce and Mr. Bill Hogan of BWX that a Stop Work Order was being prepared covering the areas bounded by N-S coordinate lines 2+0 and 7+0 and E-W Coordinate lines 0+0 and 2+0. The Stop Work Order would be in effect until the extent of the problem could be determined and a plan of action developed to bring the clay cap installation into the compliance with the Consent Decree. A copy of the Order is attached.

d) Mr. L. Lipinski of MDNR was briefed by Mr. Woodruff on the situation.

4. Wednesday - 10 October 1984

a) The Stop Work Order was officially issued.

b) The site was visited by the following CoE personnel during the morning:

Col. R.T. Beurket , District Engineer  
Mr. Mark Grazioli, Chief, C-O Division  
Mr. Ronald Bobbitt, Chief, Detroit Area Office  
Mr. Joe Kubinski, Chief, Grants Management Section

c) At 1 P.M. a meeting was held at the site between Mr. Michael W. Repasky, Manager Civil Engineering, Corporate Engineering, Mr. R. Brandau and Mr. Bill Hogan, all BWC and Mr. Dick Albert, Mr. Joe Kubinski and Mr. C. Woodruff of CoE. The following course of action was developed:

1) The seven problem areas would be staked out.

2) The unacceptable material in the areas would be excavated and replaced with suitable clay to satisfy the Consent Decree requirements.

3) Unacceptable material would be handled in accordance with the Consent Decree and buried on-site.

d) A letter removing the Stop Work Order would be drafted by Mr. Woodruff, CoE.

Mr. Woodruff briefed Mr. Dikinis (EPA) by telephone on the above approach to bring the clay cap into compliance. he concurred.

Mr. Woodruff also briefed Mr. L. Lipinski (MDNR) by telephone on the current status.

5. Thursday - 11 October 1984

Mr. Repasky and Mr. Hogan of BWC and Mr. Albert, Mr. Jameson and Mr. Woodruff of CoE met to stake out the seven areas. Photographs were taken for reference. The Stop Work Order removal was finalized. A handwritten draft was issued at the site to allow work to proceed. Details of the removal agreement would be transmitted in a letter to Mr. Bill Axce of BWC.

6. Friday - 12 October 1984

a) Mr. Woodruff visited the site to observe the excavation of the seven problem areas. Six of the areas proved to have less than the required 24 inches of cover. The seventh was a soft area and was refilled for additional compaction. The six remaining non-compliance areas were treated as follows:

1) Each area was excavated until the perimeter showed a minimum brown clay thickness of 24 inches. Each of the areas turned out to be localized.

2) Approximately 1 foot of dry concrete mix was spread on the bottom of each excavation to act as a soil stabilizer. The additional material excavated to accommodate the dry mix, along with the excavated soft grey black material was placed under two feet of brown clay in the north east corner of the north compacted clay cover area on the south west edge of the north concrete ditch.

3) 24 inches (in two lifts) of acceptable brown clay was placed in each excavation and compacted.

4) Care was taken during the operations not to allow uncontrolled spread of unacceptable contaminated soils.

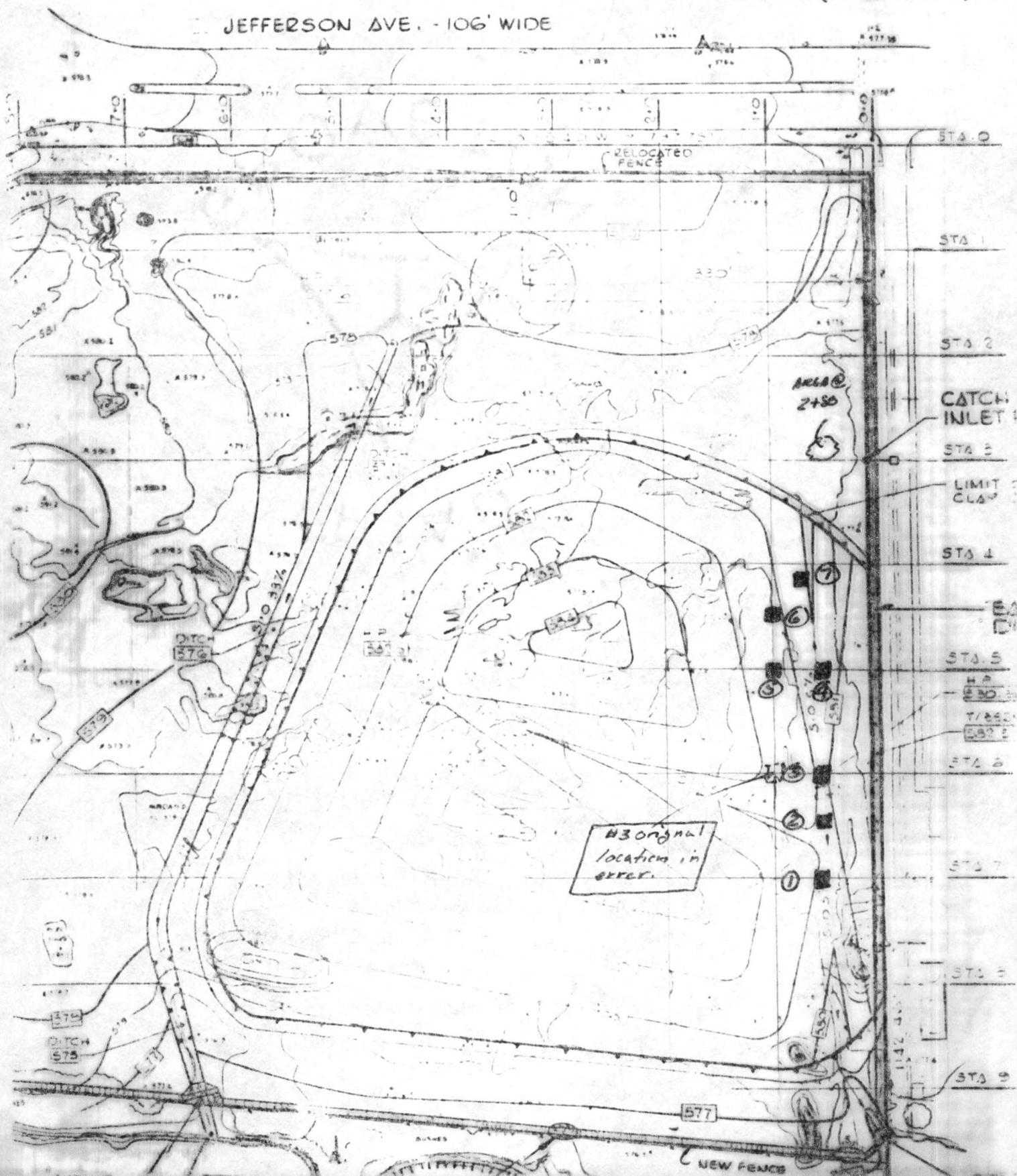
b) The letter, dated October 11, 1984, removing the Stop Work Order was given to Mr. Repasky at the site for transmittal to Mr. Bill Axce. A copy is attached.

7. Michigan Testing will retest the problem area, specifically checking the seven problem locations, to assure that proper compaction was obtained during repair of the clay cap cover.

8. Paragraphs 2 and 5 of the Stop Work Order included the area west of the Catch Basin around Station 2+80. This area was outside of the limits of the northern compacted clay cover. The Consent Decree requires that BWC maintain such areas, including drainage over the next 30 years. In view of this the Stop Work Order on the Sta 2+80 area was withdrawn as noted in the October 11, 1980 letter of removal.

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JEFFERSON AVE. - 106' WIDE





WCHOC-2D

9 October 1984

**Subject:** Stop Work Order for Consent Decree work at the Riverview Site,  
Riverview, Michigan.

**To:** Mr. Bill Axze  
Mr. E. Brandan  
Mr. Bill Hogan  
BASF Wyandotte Corp.  
Wyandotte, Michigan 48192

1. As reported by your surveyors, final grades taken in the area bounded by E-W coordinates 0+0 and 2+0 and N-S coordinates Station 2+0 and Station 7+0 indicate that the 24 inch thickness of clay cap material has been achieved.
2. Observations by COE on-site inspector indicate that the 24 inch minimum thickness of clay cap material required by the Consent Decree has not been obtained in the following areas:

Area	Coordinates	
	E-W (Line)	N-S (Line)
1	0+50+/-	7+00+/-
2	0+50+/-	6+50+/-
3	1+00+/-	6+00+/-
4	0+50+/-	5+00+/-
5	1+00+/-	5+00+/-
6	1+00+/-	4+50+/-
7	0+75+/-	4+20+/-

Also, at Station 2+80 west of the catch basin located northwest of the west clay cap limit a reddish-brown liquid was observed pooling on the ground surface during the morning of 9 October 1984.

3. Work in the area bounded by the coordinates given <sup>Para 1</sup> ~~impara. 1~~ above is ORDERED STOPPED.
4. Work shall not resume until a determination of the extent of the soils problems associated with Consent Decree compliance of the clay cap in the above areas can be made and a corrective plan of action developed.
5. It is evident from the reddish brown liquid noted in <sup>the area</sup> ~~the area~~ of Sta. 2+80 west of the catch basin that problems exist to the northwest of the clay cap limits. ~~These~~ problems must be addressed also.
6. Environmental Protection Agency Representative, Mr. Jonas Dikinis, has been advised of the above action and concurs.

G.F. R. Janner (COE), J. Dikinis (EPA)  
L. Kipinski  
cc. Coast. Br.

*Carl Lee Woodruff*  
Carl Lee Woodruff  
COE REPRESENTATIVE

NCECO-D

October 11, 1984

SUBJECT: Rescission of October 9, 1984 Stop Work Order for Consent Decree Work in Riverview, Michigan.

Mr. Bill Axce  
BASF Wyandotte Corporation  
Wyandotte, Michigan 48192

Dear Mr. Axce,

A meeting at the Riverview site was held Wednesday October 10, 1984, to discuss resolution of problems associated with Consent Decree compliance of the clay cap layer within the area bounded by E-W coordinate lines 0+0 and 2+0, and N-S coordinate lines Station 2+0 and Station 7+0. This meeting was attended by Mr. Michael Repasky, Mr. Rod Brandau and Mr. Bill Hogan, of BASF and myself, Mr. Dick Albert and Mr. Joe Kubinski of the CoE.

A follow up meeting was held between Mr. Repasky and Mr. Hogan and myself and Mr. Dick Albert on Thursday, October 11, 1984. At this meeting the following was accomplished, determined, and/or agreed to:

- a) Seven areas identified in the October 9, 1984 Stop Work Order were staked out. It was determined that the E-W coordinate line for Area 3 was 0+50+/- instead of 1+00+/-.
- b) As soon as possible after the staking BWC would arrange to excavate the areas involved, removing unacceptable cap material and replacing with clay material meeting Consent Decree requirements until the 24 inch thickness and required compaction is achieved.
- c) If excavated material is found to contain original soils that existed on-site prior to the start of site modification, such material shall be considered contaminated and be buried on-site within the clay capped area or an extension of the clay capped area. Such extension to meet Consent Decree requirements as to material, thickness, compaction and permeability.
- d) Contaminated soil material removed from the excavations shall be handled so as to prevent contamination of adjacent areas; equipment shall be decontaminated before removal from the site; and equipment use shall be planned so as to prevent contamination of uncontaminated adjacent areas during transport of soil material.
- e) If it is found that any of the seven areas referenced in paragraph a.) above are more extensive than a 50 foot diameter area, then work should be suspended until the corrective plan of action can be re-evaluated.



In order to allow work to proceed in the areas referenced above and in paragraph 1 of the October 9, 1984 Stop Work Order, and as stated in subparagraphs (b), (c), (d) and (e) above, the October 9, 1984 Stop Work Order is hereby rescinded.

The Stop Work Order as it pertains to the work in the area of Station 2+80 as covered by the second sentence of paragraph 2 and paragraph 5 in its entirety is hereby withdrawn. It is understood however, that BWC is responsible under Article IV of the Consent Decree for preventing "the contamination of water located on, under and around the Site by industrial wastes located on the Site".

The above has been discussed with Mr. Jonas Dikinis of EPA, and Mr. Leonard Lipinski of MDNR and they concur.

Sincerely,



Carl Lee Woodruff, P.E.  
CoE Representative

C.F.

J. Dikinis (EPA)  
L. Lipinski (MDNR)

cc: Constr. Br.